REMARKS

Each rejection raised by the Examiner is addressed separately below. In view of the claim amendments noted above and the remarks below, Applicants respectfully request reconsideration of the merits of this patent application.

IN THE CLAIMS

Claims 1 and 20 have been amended herein. Support for the amendments can be found in the specification as filed. No new matter has been added.

CLAIM OBJECTIONS

Claim 20 was objected to because of a typographical error. Applicants have amended claim 20 to recite "claim 19". Accordingly, Applicants submit this objection has been overcome and should be withdrawn.

§112 REJECTIONS-INDEFINITENESS

Claim 1 has been rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Specifically, the Examiner contends that claim 1 recites the limitation "other than alcohol or esters", but claims 13 and 14, which depend from claim 1, specifically recite alcohols and esters. Without agreeing to the Examiner's characterization and solely to move prosecution forward, Applicants have amended claim 1 to remove the limitation "other than alcohol or esters." Thus, it is now clear that the milling fluid can be an alcohol or an ester as recited in claims 13 and 14.

Accordingly, Applicants submit this rejection has been overcome, and request that the rejection be withdrawn.

§103 REJECTIONS

I. Claims 1, 4-9, 17-20 and 23-31 have been rejected as being obvious over U.S. Patent 4,725,317 to Wheeler. Regarding claim 1, the Examiner alleges that Wheeler teaches a process for preparing low or non-dusting substantially non-volatile metal pigment composition comprising an organic binder medium, an organic liquid vehicle and metal pigment, wherein the composition can

be used in wet ball milling and the organic liquid can be any chemical inert organic liquid mixture or liquids. The Examiner concedes that Wheeler does not teach a milling fluid that is both solvent and water miscible, but alleges that it would have been obvious to have selected such a fluid. Applicants disagree.

A close review of Wheeler shows that Wheeler describes a process for preparing a low or non-dusting substantially non-volatile metal pigment composition by forming a "coherent paste comprising an organic binder medium, an organic liquid vehicle and metal pigment" (col. 1, lines 66-68. This process can be integrated with wet ball milling, wherein "the metal flake is prepared by ball milling metal powder or chopped metal foil with an organic liquid such as mineral spirits" (co. 2, lines 19-24). The metal flakes are then separated into the desired particle size and brought to a paste-like consistency (col. 2, lines 25-29) and the paste is then sub-divided to assist removal of the organic liquid vehicle while the metal pigment is in a non-explosive form (col. 2, lines 35-40).

In contrast, the present claims recite a process for producing a low volatility metal flake pigment composition comprising milling metal powder in a milling fluid, wherein the milling fluid comprises a non-aqueous, non-hydrocarbon, low volatility fluid that is both solvent and water miscible. Nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Therefore, Applicants submit that claim 1 is not obvious over Wheeler.

Regarding claim 4, the Examiner alleges that Wheeler discloses that the metal flakes produced are separated so that the desired particle size distribution is obtained, making it obvious that the oversize or undersize particles are removed. However, as discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Thus, claim 1, from which claim 4 depends, cannot be obvious over Wheeler.

Regarding claim 5, the Examiner alleges that Wheeler teaches that the final paste obtained after milling the metal contains about 55-80% by weight of metal content. However, as discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-

hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Thus, claim 1, from which claim 5 depends, cannot be obvious over Wheeler.

Regarding claims 6-9, the Examiner alleges that Wheeler teaches or suggests all the elements of these claims. However, as discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Thus, claim 1, from which claims 6-9 depend, cannot be obvious over Wheeler.

Regarding claims 17-20 and 23-31 the Examiner alleges that Wheeler teaches or suggests all the elements of these claims. However, as discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Thus, claim 1, from which claims 17-20 and 23-31 depend, cannot be obvious over Wheeler.

Accordingly, Applicants submit that claims 1, 4-9, 17-20 and 23-31 are not obvious Wheeler.

II. Claim 13 has been rejected as being obvious over Wheeler and further in view of U.S. Patent No. 4,588,474 to Gross in view of U.S. Patent Appn. No. 2002/0047058 to Verhoff et al. The Examiner concedes that Wheeler is silent regarding the use of ethylene glycol, glycerin, or any of the specific compounds recited in claim 13. However, the Examiner goes on to allege that Gross discloses the use of these specific compounds, albeit with an aqueous solution, and that Verhoff teaches that the milling liquid may be non-aqueous. The Examiner therefore concludes that it would have been obvious to modify Wheeler to include the specific compounds as taught by Gross because Verhoff teaches that the milling media may or may not be aqueous. Applicants disagree.

As discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible.. Nothing in Gross or Verhoff overcomes the deficiency of Wheeler. Accordingly, Applicants respectfully submit that the rejection of claim 13 as obvious over Wheeler, in view of Gross and Verhoff has been overcome and should be withdrawn.

III. Claim 14 has been rejected as being obvious over Wheeler in view of Gross and Verhoff and further in view of U.S. Patent 3,511,648 to Garrett. The Examiner concedes that none of Wheeler, Gross or Verhoff teach or suggest the use of the milling fluids as recited in claim 14. However, the Examiner argues that Garrett does, thereby making it obvious to modify the references as combines to include the specific compounds of claim 14. Applicants disagree.

As discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Nothing in Garrett, Gross or Verhoff overcomes the deficiency of Wheeler. Accordingly, Applicants respectfully submit that the rejection of claim 14 as obvious over Wheeler, in view of Gross, Verhoff or Garrett has been overcome and should be withdrawn.

IV. Claims 3-4, 8, 10-12 and 21-22 have been rejected as being obvious over Wheeler in view of U.S. Patent No. 6,398,861 to Knox in further view of Verhoff. Regarding claim 3, the Examiner concedes that Wheeler does not expressly disclose the use of a corrosion inhibitor, but goes on to allege that Knox discloses the use of such corrosion inhibitors, albeit in combination with water. However, the Examiner also alleges that Verhoff teaches milling solid material in a milling fluid that may be chosen from water, hydrocarbons, alcohols and esters, thereby making it obvious to modify Wheeler to include the corrosion inhibitors of Knox because Verhoff teaches that the milling fluid may not be aqueous. Applicants disagree.

As discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Nothing in Knox or Verhoff overcome the deficiency of Wheeler. Accordingly, Applicants respectfully submit that the rejection of claims 3-4, 8, 10-12 and 21-22 as obvious over Wheeler in view of Knox and Verhoff has been overcome and should be withdrawn.

V. Claim 2 has been rejected as being obvious over Wheeler in view of Gross and Verhoff. The Examiner concedes that Wheeler does not expressly teach the use of an alcohol, but that Gross and Verhoff, in combination, do. The Examiner therefore concludes that it would have been obvious to modify Wheeler to include any of the alcohols as taught by Gross and to use solvents other than water as taught by Verhoff. Applicants disagree.

As discussed above, nothing in Wheeler teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Nothing in Gross or Verhoff overcome the deficiency of Wheeler. Accordingly, Applicants respectfully submit that the rejection of claim 2 as obvious over Wheeler in view of Gross and Verhoff has been overcome and should be withdrawn.

VI. Claim 2 has also been rejected as being obvious over Knox in view of Verhoff. The Examiner concedes that Knox does not teach a milling fluid that does not contain water. However, the Examiner alleges that Verhoff teaches a milling fluid which may or may not be aqueous, therefore concluding that it would have been obvious to modify Knox to include a non-aqueous fluid as taught by Verhoff. Applicants disagree.

As discussed above, nothing in Knox or Verhoff teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. Accordingly, Applicants respectfully submit that the rejection of claim 2 as obvious over Knox in view of Verhoff has been overcome and should be withdrawn.

VII. Claims 15-16 have been rejected as being obvious over Knox in view of Verhoff and U.S. Patent 5,849,072 to Sommer et al. The Examiner concedes that neither Knox nor Verhoff teach or suggest any of the specific milling fluid compounds recited in claims 15-16. However, the Examiner goes on to suggest that Sommer discloses the use of adipic acid in the solution, thereby making it obvious to one of skill in the art to modify the teachings of Knox and Verhoff to include adipic acids and esters thereof in the milling fluid as taught by Sommer. Applicants disagree.

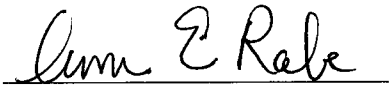
As discussed above, nothing in Knox or Verhoff teaches or suggests milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible. As claims 15-16 depend from claim 2, which specifically recites milling metal powder in a non-aqueous, non-hydrocarbon, low volatility milling fluid that is both solvent and water miscible, Applicants respectfully submit that the rejection of claims 15-16 as obvious over Knox in view of Verhoff and Sommer has been overcome and should be withdrawn.

SUMMARY

Having addressed each issue raised by the Examiner, claims 1-31 as amended are believed to be in condition for allowance and a Notice of Allowance is respectfully requested. Should any issues remain outstanding, the Examiner is invited to contact the undersigned at the telephone number appearing below if such would advance the prosecution of this application.

A Petition for Three-Months Extension of Time is included herewith. However, if any additional extension of time is required in this or any subsequent response, please consider this to be a petition for the appropriate extension and a request to charge the petition fee to Deposit Account No. 17-0055. No other fee is believed to be due in connection with this response. However, if any fee is due in this or any subsequent response, please charge the fee to the same Deposit Account No. 17-0055.

Respectfully submitted,



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